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AEROBEE 350
PASSES TEST
WITH PAYLOAD

The National Aeronautics and Space Administration today launched the second Aerobee 350, a new high-performance research rocket. Launched at 3:50 p.m. EDT, today from the NASA Wallops Station, on the Virginia Coast, the 53-foot rocket carried more than 400 pounds of instruments for a dual-purpose engineering-space science mission.

The prime purpose of the launch was to evaluate performance of the Aerobee 350, which features a main stage comprised of four liquid-fuel Aerobee 150 engines and a solid-fuel Nike booster. The rocket develops 60,000 pounds of thrust. The first full-flight test of the rocket, conducted in June, 1965, checked its flight characteristics and demonstrated capabilities as a sounding rocket.

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Today was the first use of the 350 for space research. Three scientific experiments were carried, accounting for nearly half of the payload instrumentation. The NASA Goddard Space Flight Center conducted an experiment to measure the effects of the Earth's ionosphere and magnetic field on radio frequency antennas.

The information will be needed for interpretation of radio emissions to be studied by the future Radio Astronomy Explorer satellite.

Another Goddard experiment was designed to measure X-ray emissions from the Sun and Crab Nebula. The third experiment was carried for the University of Minnesota, for the purpose of gathering data on electric waves in the ionosphere.

The Aerobee reached a peak altitude of 222 miles and impacted in the Atlantic Ocean about 106 miles from the launch site. Approximately 13.5 minutes of rocket performance and experiment data were sent back from the flight by telemetry.

John H. Lane, NASA Aerobee 350 Project Scientist, said a preliminary examination of vehicle data indicated the rocket's performance was very close to predicted.

The 350 was developed by NASA to give heavy scientific payloads, with delicate instrumentation, a "soft ride" to high altitudes--its liquid propulsion system produces lower acceleration and less vibration than solid fuels.

The 350 will boost a payload of 150 pounds to 290 miles and its present maximum-weight payload of 500 pounds to 210 miles. Future flights, which will include launches from the White Sands Test Range, N.M., as well as from Wallops Island, may carry payloads as heavy as 1000 pounds.

The rocket is 50 feet long and 22 inches in diameter. Its gross weight is over 3.5 tons, plus payload. The four main stage Aerobee 150 liquid engines each have a sea-level thrust of 4100 pounds and burn for about 52 seconds. The solid-fuel Nike booster has a thrust of 52,000 pounds. The main stage and booster fire almost simultaneously to give the Aerobee the required launch velocity. The Nike burns for 3.2 seconds and drops away.

The Aerobee 350 was designed and built by the Space-General Corporation of El Monte, Cal., under contract to the Goddard Center, Greenbelt, Md. Direction of the Sounding Rocket Program is under the NASA's Office of Space Science and Applications, Washington, D.C.

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